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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,963	08/20/2003	Hae Jin Yun	8733.721.10	5006
30827	7590	12/10/2004	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			LEE, HSIEN MING	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/643,963	Applicant(s) YUN, HAE JIN 	
	Examiner Hsien-ming Lee	Art Unit 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 20-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21 is/are rejected.
- 7) ☒ Claim(s) 20 and 22-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/274,879.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

HSIEN-MING LEE  
PRIMARY EXAMINEE 12/8/2004

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 20 is objected to because of the following informalities:

In claim 20, at line 4, changing “adjacent the crossing” into – adjacent to the crossing data line – is suggested.

In claim 20, at lines 7~8, changing “step (a)” into – step (A) – is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations” depositing a semiconductor material on the gate insulating film and then patterning the semiconductor material to form an active layer and an ohmic contact layer of the thin film transistor” are confusing to the Examiner.

As illustrated in Fig. 5 and related text on paragraphs [52] and [53], the active layer 64 is formed from “an amorphous silicon layer” and the ohmic contact layer 96 is formed from “ an n+ amorphous silicon layer”, wherein the ohmic contact layer 96 is formed on the active layer 64. If it is the case, why only **one** semiconductor material layer forms two different layers 64 and 96.

### ***Allowable Subject Matter***

4. Claim 20 would be allowable if rewritten or amended to overcome the objection as set forth in this Office action.

5. Claim 21 would be allowable if rewritten to overcome the rejection(s) under 35

U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. Claims 22-26 are objected to as being dependent upon an objected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art of record, Yoo et al. to US 2002/0180898, teaches a related art, comprising:

(A) forming on a substrate 31 a gate line 41 and a crossing data line 43 (Fig.6) that are separated by a gate insulating film 39 (Fig.7), a thin film transistor TFT adjacent to the crossing data line 43 (Fig.6), a gate link (i.e. a connecting portion between the gate pad 55 and the end portion of the gate line 41), a gate pad 55 that extends from the gate line 41 (Fig.6), a data pad 57 over the gate insulating film 39 (Fig.7), a data link (i.e. a connecting portion between the data pad 57 and the end portion of the data line 43) that extends from the data pad 57 toward the data line 41;

(B) forming a protective film 51 over the entire surface of the substrate after completing step (A) (Fig.7);

(C) defining a plurality contact holes 61a and 61b through the protective film 51 and another contact hole 62 through the protective film 51 and the gate insulating film 39(Fig.7), wherein the contact holes 61a and 61b expose the data pad 57 and the another contact hole 62 exposes the gate pad 55 (Fig.7); and

(D) forming a pixel electrode 53 that is electrically connected to the thin film transistor, including a gate electrode 33, a source electrode 35 and a drain electrode 37, located at section B-B' (Fig.7).

In contrast, Yoo et al. at least neither teach nor suggest defining all the first contact holes and second contact holes through the protective film and through the gate insulating film. In fact, *only* contact hole 62 is through both the protective film 51 and the gate insulating film 39 but contact holes 61a and 61b are through the protective film 51 *only*, not through the gate insulating film 39. In addition, Yoo et al. do not teach or suggest the first contact holes expose the *data link*, forming a data pad 57 *under* the gate insulating film 39; and a *data pad protection electrode* is connected to the *data link via the first contact holes*.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-ming Lee whose telephone number is 571-272-1863. The examiner can normally be reached on Tuesday-Thursday (8:00 ~ 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Art Unit: 2823

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Hsien-ming Lee  
Primary Examiner  
Art Unit 2823

Dec. 8, 2004

HSIEN-MING LEE  
PRIMARY EXAMINER

*Lee*  
*12/8/2004*